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Abstract

This document proposes that an Institute of Health Sciences be established as a new unit of the City University of New York (CUNY) within the framework of Hunter College in cooperation with the Mount Sinai School of Medicine. The Institute's bachelors and masters programs would prepare professionals to work with physicians on health teams. The prototype undergraduate curriculum is based on the concept that only students educated in the social sciences, humanities, arts and natural sciences will have the breadth of understanding and the professional discipline to use their skills and knowledge effectively. Various combinations of liberal arts, specialized science and technical courses plus clinical experience are suggested for the health sciences programs, 3 of which are patient-oriented (Radiotherapeutic Technology, Communications Science and Physical Therapy), 1 community-oriented (Community Health Education), and 1 laboratory or research-oriented, with alternate professional specializations (Laboratory Science Technology, leading to Medical Technology or to research in biology). The curriculum for laboratory science technology is the most demanding one proposed. The teaching staff will comprise faculty of CUNY's senior and community colleges and of the Mount Sinai School of Medicine. Staff members from Mount Sinai Hospital and its affiliated hospitals' clinical research laboratories will serve as adjunct instructors. (WM)

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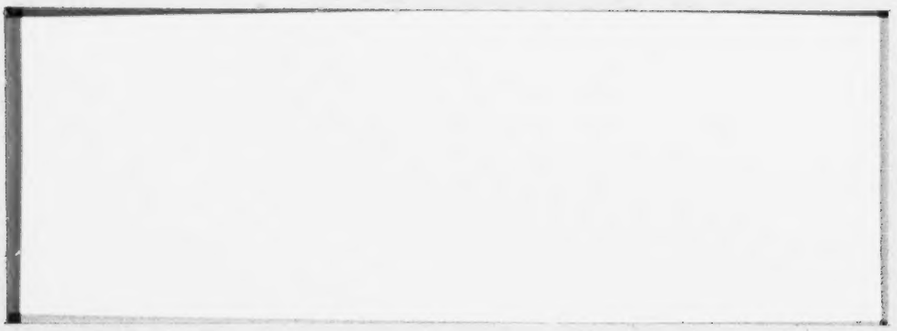

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Feasibility Study

on the proposed

HUNTER COLLEGE INSTITUTE OF HEALTH SCIENCES

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CONTENTS

	PAGE
HIGHLIGHTS	preface (i-v)
HEALTH GOALS IN THE 1960'S	1
HEALTH MANPOWER NEEDS	4
EDUCATING THE HEALTH PROFESSIONAL IN THE UNIVERSITY	7
HUNTER COLLEGE INSTITUTE OF HEALTH SCIENCES	11
General Plan	11
Administrative and Advisory Structure	13
Responsibility for Curriculum	16
Staff	17
Prospective Students	19
Admission	23
Curriculum Design (Baccalaureate Program)	24
Proposed Programs	27
Enrollment Projections	44
PROJECTED Time Schedule - Facilities - Budget	47

APPENDICES

PAGE

APPENDIX A - ASSOCIATION OF SCHOOLS OF ALLIED HEALTH PROFESSIONS -- 54

APPENDIX B - CONSULTATIONS ---------- 55

APPENDIX C - CONFERENCES WITH HUNTER COLLEGE AND CUNY STAFF ------- 57

APPENDIX D - ADVISORY COMMITTEE-MOUNT SINAI SCHOOL OF MEDICINE ---- 59

APPENDIX E - SITE VISITS ---------- 61

APPENDIX F - PROFESSIONAL PREPARATION OF COMMUNITY HEALTH EDUCATORS ---------- 63

APPENDIX G - BIBLIOGRAPHY OF RESEARCHED LITERATURE ---------- 64

APPENDIX H - DIAGRAM #1: EDUCATIONAL PATHS ---------- 66

APPENDIX I - DIAGRAM #2: HUNTER COLLEGE INSTITUTE OF HEALTH SCIENCES - SHARED RESPONSIBILITY -------- 67

APPENDIX J - DIAGRAM #3: ILLUSTRATIVE CURRICULUM PLAN ---------- 68

TABLES

TABLE I - SUMMARY OF SUGGESTED COURSE CREDIT DISTRIBUTION FOR IHS - 43

TABLE II - ENROLLMENT PROJECTIONS ---------- 46

TABLE III - COST BASED UPON ENROLLMENT PROJECTIONS ---------- 50

Highlights of Proposal for a HUNTER COLLEGE Institute of Health Sciences

1. This document is a proposal for an Institute of Health Sciences under the general jurisdiction of Hunter College in cooperation with the Mount Sinai School of Medicine. The Institute will have the special mission of educating health professionals who will work with physicians as members of the health team.

    a. Its purpose is to graduate from its bachelors and masters programs men and women with wide background, independent judgment, and highly developed technical knowledge and skill for maintenance of health and service to the sick.

    b. The concept of total health care has expanded to include concern for social, economic, psychological and vocational problems as well as treatment of disease. There is, therefore, an immediate need to educate health specialists with a wide variety of attitudes, techniques, and backgrounds who, in close cooperation with the physician, will be equipped to render truly comprehensive services to the community. Of high priority is the demand for programs for care of the very young, the old, and the disadvantaged.

    c. The revolution in our system of delivery of health services, as well as the explosive development of our biomedical capability, make the education of these new health professionals urgent and imperative.

2. The proposed Institute is unique in design.

   a. It is administratively structured with two strong bases: a Liberal Arts College and a Medical School (diagram #2). The complexity of programs, the interrelationships with the medical school, hospitals, private and governmental agencies necessitates two senior executive officers: one closely associated with the health professions; one with the academic programs of Hunter College.

   b. Health professionals with different competencies and goals will be educated under one roof in a university setting. Currently much of this education is fragmented, commercial, and unrelated to academic programs.

   c. The staff of the Institute will consist of:

      1) Regular members of the Hunter College faculty;

      2) Staff of the Mount Sinai School of Medicine;

      3) Clinical adjunct faculty from affiliated hospitals, community agencies, etc.;

      4) Hunter College faculty assigned on a regular basis to the Institute. (These appointments will be in areas not represented in the current programs of the College or the Medical School.)

   d. Courses not available at the College or Medical School will be offered at the Institute. These will be open to all qualified Hunter College students.

   e. A Center for Research, Curriculum, and Development will be an integral and important part of the Institute. Among the

objectives of this division will be:

1) Preventing obsolescence or duplication in curricula in the rapidly changing health sciences;
2) Facilitating the research of members of the staff;
3) Keeping the Institute abreast of legislation, program, and manpower needs of governmental and private agencies;
4) Studying the programs in health sciences in the University as a whole and devising new means to insure the mobility of capable students.

3. The curriculum plan for the proposed Institute is unique.
   a. It will provide liberal arts instruction side by side with education in the health sciences for a full four years rather than the usual two years of liberal arts followed by two years of scientific and technical training.
   b. All students will have a common core of courses in basic public and community health whether their goal be patient, laboratory, research or community oriented occupations.
   c. Institute students will share some of their educational experience with medical students.
   d. An interdisciplinary course, open to all students (see A, diagram 3), will be offered in the freshmen year at Hunter College (and hopefully at the Community Colleges). The objective of this course will be to develop an understanding of the magnitude and complexity of health problems and

health services in an urban society.

e. An initial field experience (see B, diagram 3) will be offered in the sophomore year to all students who have taken course A.

f. Education specifically for the health professions will be given in the last two years along with continuing courses in science and the liberal arts. Limited credit will be given for internships in medical, research or community settings. Where accreditation agencies demand internship longer than is usually credited toward a bachelor's degree, opportunity will be provided for obtaining such clinical experience during the summer and following the termination of the baccalaureate program. Where possible, stipends will be obtained for this work.

g. Students will enter the Institute program leading to the baccalaureate degree after the sophomore year of a senior college or upon satisfactory completion of a community college two year program.

h. Students with varying backgrounds and talents are expected to apply for admission to the program. The entrance standards of the different units of the City University will prevail. It is proposed to conduct a pilot program to determine whether highly motivated students who do not meet these standards, but who are recommended by their high schools, can benefit from this type of education. Special tutorial assistance and educational and personal guidance will be sought

for this group. Hunter College standards for continued matriculation will apply.

4. Students who complete the baccalaureate program will receive B.S. degrees from Hunter College. Where appropriate, certificates in specialities will be awarded upon completion of internship.

HEALTH GOALS IN THE 1960'S

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition."

This statement from the 1948 Constitution of the World Health Organization of the United Nations has set standard for all citizens of all nations. The goal no nation as yet has achieved. We in the United States are far from attaining it, despite the magnificent strides made in knowledge, technologies, and increased governmental activity in the health field.

Indices such as infant mortality reveal that we are 13th on the list of nations, even though health in this country is a $43 billion industry employing 3 1/2 million people. In other respects, too, we have not attained the health standards of many of our sister nations. If it were possible to obtain statistics on the number of people who are struggling at less than their full health potential, the figures would be staggering; they would be a keen measurement of social waste.

Our apparent lack of ability to achieve a level of health services consonant with our knowledge and our national wealth has multiple causes. Among them are the increase in urbanization from 35% in 1900 to 66% in 1965 and the age change in composition of our population which today comprises 50% in the two age groups requiring most health services: those under 21 and those over 65 years of age. Add to this

the deterioration of our physical environment through air and water pollution, our inability to eliminate poverty and racial prejudice, and it is clear we have much to do to upgrade health services in this country.

Compounding these physical and sociological forces is the revolution in public expectation of service.

"Public expectations for health care have been immeasureably heightened by the advance of biomedical capability, public awareness of that advance and simultaneous social changes that have rejected for all time the notion of privilege," said Dr. William H. Stewart, Surgeon General of the U.S. Public Health Service (Perspectives in Biology and Medicine, Winter-1968). "Access to good medical care, like access to education, has been accepted as a right for everybody." (Italics are ours.)

The National Advisory Commission on Health Manpower has categorically stated that "everyone in our society has a right to health care." Yet we have been the last industrialized nation in the world to move in that direction. That we now are moving is undeniable. We have passed legislation to insure non-charity health care to certain sectors of our population (Medicare and Medicaid). There currently is a trend to bring certain health services to the neighborhoods where they are needed and more likely to be used (ambulatory care centers, for example). We are increasing the capability of our great medical centers to care, with increasing success, for patients with major illnesses through new techniques and equipment. We are making efforts to educate our citizens about new environmental hazards, while trying to reduce them through technology and legislation.

But the problem is multifaceted. The approaches to solution must be multifaceted. An essential need, however, in everything we are doing or will do is for more and better trained workers in the health field.

HEALTH MANPOWER NEEDS

Despite the fact that the number of workers in health occupations has increased at twice the rate of the population, we are understaffed at almost every level. Every commission and every conference on health manpower has documented this need. It requires no further documentation in this report. But there are a number of profound changes in health manpower utilization relevant to a proposed program for helping to fill this need.

First, there already exist more types of professional and sub-professional health workers today than was dreamed of a generation ago. In 1940 there were five health workers to each physician; in 1950, seven; in 1960, eleven and in 1965, thirteen. It is estimated that by 1970 there will be seventeen other health workers to every physician, even taking into account that the number of physicians also will increase by 1970.

Second, many professional tasks, until now performed by the doctor alone, already have been transferred to other professional and technical workers. This transfer not only saves the time of the most highly and expensively trained professional on the health team (the physician) but it actually serves the patient better. It makes available to him a wide variety of attitudes, skills and backgrounds in an improved system of comprehensive care.

Third, the system of medical care has become so complex that it is impractical, if not impossible, for the physician alone to deliver complete health services to individuals or groups. The concept that

the only place for treatment of disease is the hospital is being rapidly replaced by medical and health services in community clinics, doctors' offices and, if possible, in the home of the patient. This automatically expands the responsibility of the physician to see that a patient's social, economic, psychological, vocational and other needs are met. It is now recognized that he cannot meet this tremendous task single-handedly. That is why there is an absolute and immediate need to develop qualified health specialists who, in cooperation with the physician, will render more comprehensive services in the community. Some of these health specialists yet to be developed will be, at certain stages of a patient's recovery and rehabilitation, equally as important as the physician.

Fourth, if health specialists other than the physician and the nurse are to find general acceptance--by the medical profession and by the public at large--it must be made clear to all who they are, what they can do, what they cannot be expected to do and the value of their services.

These specialists must be granted the professional standing and financial rewards commensurate with their academic preparation, specialized training, and functions. It is our assumption in this plan that by educating a wide variety of health specialists under one roof, as it were, in the university setting, rather than in specialized schools and isolated medical units, they will develop an understanding of and a respect for each other's professional contributions. This respect will then be communicated to the recipient of the many and varied services. This training can be effective only if it achieves

an integration of function among all members of the health team. This is the basic principle on which this report is based.

EDUCATING THE HEALTH PROFESSIONAL IN THE UNIVERSITY

Fifty-seven years ago the Flexner Report brought order out of chaos in the education of the physician. Following his recommendations, medical education became university-based. A "Flexner Report" in the education of the health professional is long overdue. A critical review of present practices would not only eradicate the ofttime dominating commercialism in health careers education, but also return the responsibility for professional education to the University where it rightfully belongs.

"Approaching health manpower as an interrelated whole rather than merely an agglomeration of disparate health workers is essential," said Dr. William L. Kissick (Effective Utilization: The Critical Factor in Health Manpower) in the American Journal of Public Health, January-1968.

Health professionals will need flexible and adaptable intellectual and technical skills which will allow them to operate effectively in a rapidly changing social and technological setting. Education in a facility in which they will enjoy common professional and clinical experience (described below) with members of the medical fraternity will serve to create this flexibility through wider knowledge. It will also play a role in winning acceptance for their services by physicians and by the population at large. As their proficiency as members of the health team becomes apparent, these new workers will win some of the trust and respect previously reserved exclusively for the physician.

Lowell Coggeshall in his historic report to the Association of American Medical Colleges in April, 1965, stated that "The university

alone comprises all the fields of knowledge and disciplines required for all health fields." This was reaffirmed by the Health, Education and Welfare Manpower Commission in August, 1967, by a vigorous statement recommending that education for Allied Health Sciences should be conducted under the supervision of the University. It is obvious that the medical school component of the University with its clinical skills, specialized knowledge, and physical facilities is indispensable in this educational endeavor. William H. Stewart, Surgeon General, has aptly stated (Feb. 17, 1966, at Conference on Job Development and Training for Workers in Health Services) this premise: "These people cannot be trained in isolation from the health complex of which they will become a part".

A few Schools of Allied Health Sciences within the University were established in the 1950's. There are now 20 such schools. Those 15 who are members of the Association of Schools of Allied Health Professions are listed in Appendix A. Five additional SUNY Allied Health Schools are on the drawing board. Their position in the administrative structure of the University varies widely. None, however, has the structure contemplated in this plan.

The City University (or its member colleges before the University was established) long has played a significant role in the basic preparation of students for the health field. Graduates of senior colleges either received on-the-job training at treatment, research or industrial centers, or entered various types of graduate schools for specialized training in the health sciences. CUNY recently has expanded its program for education of nurses at the baccalaureate level. The two-year community colleges have established programs to provide a wide variety of students with technical training for the health field.

The plan herewith proposed has as its objective baccalaureate and masters education to prepare students for careers in the health sciences. If this educational process is successful, it will permit students to assume significant roles as health professionals, developing their competencies to the maximum potential. We have many mechanical robots, computers and other devices, that are confidently expected to take over many routine tasks now performed by individuals. The Institute is designed to educate the controllers of these robots. For control of sophisticated devices we need sophisticated professionals.

Students will leave the formal educational system at a level appropriate to their capacities and goals. It is anticipated that, through special counseling, many will be able to re-enter the educational stream after periods of work experience.

Diagram #1 illustrates the continuum of education from high school through graduate school, with entrance into one of the health service occupations appropriate to quality and extent of education as well as a possible return to the University from employment.

The flexibility of each student's program, from community college courses to graduate study, is in accord with the "ladder" concept of education for the health professions which was presented at the White House Conference on Health in 1966. Making it easier for members of technical occupations to become professionals and for professionals to move up the ladder of professional achievement, based both on experience and further study, was hailed by most health professionals and educators as a logical and practical idea. If we are to meet the critical shortage of health workers that now threatens our entire system

of delivery of medical care, the problem is to stimulate and motivate thousands of able men and women not only to enter the health services field but to enlarge their goals and growth potentials.

HUNTER COLLEGE INSTITUTE OF HEALTH SCIENCES

General Plan

The addition of a Medical School to the University provides an unparalleled opportunity for Hunter College to establish a new unit for education of the student in the health sciences, combining liberal arts with professional and technical courses. This centralized offering of a baccalaureate program, in which the staff of Mount Sinai School of Medicine and its affiliated hospitals will participate, gives recognition to the growing theoretical and clinical affinity of various professional members of the health team. The sharing of educational experiences by all students will strengthen their understanding of each other's roles and win for each specialty group the respect of the others.

Diagram #2 illustrates the participation of the two institutions under the general educational jurisdiction of Hunter College. Students coming from the first two years of Hunter College will have completed the required base (with slight modification); those from the community colleges will have completed the usual basic two-year program (see exceptions in section on students); students in the third and fourth year at the Institute will have access to appropriate courses at Hunter College, the School of Medicine, the Institute, as well as to clinical training programs. The Departments of the Mount Sinai School of Medicine will assume responsibility for staffing of those clinical and technical courses within their particular areas of competence, e.g., pathology, hematology, community medicine. Since those members of the clinical

and research laboratories who participate in teaching will receive the status of adjunct faculty (see page 17), indispensable cooperation will be achieved between classroom and clinical instruction.

The baccalaureate degree will be given by Hunter College. The dotted arrows indicate that participation by both schools will vary with specific programs.

Masters programs in the health professions, similarly based at both institutions, are also proposed.

A Center for Research, Curriculum, and Development is proposed as an integral part of the Institute. Among its responsibilities will be the following:

1) To study and evaluate the health science programs at the community college, senior college and graduate levels of the City University with a view to eliminating gaps, avoiding duplication, and developing programs to insure mobility of capable students.
2) To search for better ways of teaching through experimentation in computer-assisted instruction, multi-media instructional methods, and maximum utilization of newly developed measures of individual proficiency.
3) The encouragement and facilitation of research of members of the staff of the Institute.
4) The study of changing legislation, program, and policy of professional organizations including accrediting agencies.
5) Maintenance of an inventory of the City's current and projected health manpower needs; the adjustment of the University's offerings in terms of these needs.

HUNTER COLLEGE INSTITUTE OF HEALTH SCIENCES

Administrative and Advisory Structure

The President of Hunter College, in consultation with the Dean of the Mount Sinai School of Medicine, will appoint two executive officers who will reflect the cooperative nature of the Institute. One senior officer will be closely associated with the health professions (he will receive a joint appointment at the Medical School); one will be closely identified with the academic programs at Hunter College. Their rank will be that of Dean of the Institute and Academic Dean. The Dean of the Institute will be a voting member of the College Personnel and Budget Committee of Hunter College and comparable committee of the Medical School.

A Coordinating Committee will be established consisting of the Chancellor, the Dean of the Mount Sinai School of Medicine, the President of Hunter College, the Dean and Academic Dean of the Institute, and a representative from the Office of the Dean of the Community Colleges.

A Joint Academic Committee, representing the Faculties of Hunter College and the Mount Sinai School of Medicine, will be established. During this feasibility study a broadly based committee from the staff of the Mount Sinai School of Medicine is meeting regularly with the consultants (see Appendix D): the Course of Study Committee, the Graduate Committee on Course of Study, as well as numerous members of the Hunter College staff (see Appendix C) are reviewing proposals.

A Personnel and Budget Committee for the Institute will be elected in the manner prescribed in the CUNY by-laws. Requests from this committee

will be reviewed by the Institute Deans before submission to the President of Hunter College. Relevant requests will be submitted to the Dean of the School of Medicine.

There are new, strong voices which wish to be heard in both the planning and the conduct of new facilities in higher education: those of the local residents where the building is located and those of the students.

The awakening of local communities to their particular needs for service and opportunities for education have changed and widened the import of a specific location. The decision to settle in an area becomes a commitment to assist the residents to benefit from its presence. A new Institution, with a particular mission to educate for the health professions, is fortunate to start with the premise that our community will be both an important resource and a source of valuable support.

Significant areas of planning must be done after study of the literature (see Appendix G) and consultation with experts in various fields (see Appendices B and E). However, there are segments of planning which will be more soundly based if the representatives of local groups are brought in at the earliest stages. This is of high priority.

The last few years have seen the rise in the discontent of students concerning the passive roles they have played in determining their educational destiny. On some campuses they have become a significant source of initiative for reform of educational policy. This restless force has great vigor although the direction of change is not entirely clear. In an institution which has a program directly related to the welfare of all citizens it should be possible to harness this student energy so

that our program becomes stronger and more relevant. The cooperation of students must be sought through continuous, serious, and flexibly structured means.

HUNTER COLLEGE INSTITUTE OF HEALTH SCIENCES

Responsibility for Curriculum

The overall design of the program will be submitted for approval to the appropriate committee of the faculty of the School of Medicine and the Faculty Council of Hunter College after recommendation through the Course of Study Committee and Graduate Course of Study Committee.

All courses will be submitted to Hunter College Faculty Council for approval after review by the Course of Study Committee. Appropriate committees of the faculty of the School of Medicine will review clinical and technical courses.

Eventually each program will have a curriculum committee; the Institute will also have an overall curriculum study committee. At the outset, program planning will be done by the Deans of the Institute (see below) and appropriate faculty. Students will be invited to serve on these committees as well as on other committees relevant to their interests.

HUNTER COLLEGE INSTITUTE OF HEALTH SCIENCES

Staff

Since students, during their freshmen and sophomore years, will be members of the student body (some identified as future Health Institute students and some unidentified until the end of their sophomore year) of either senior or community colleges, their instructors will be the faculty of these institutions.

Personnel will be recruited to head each program at the associate or full professor level. Where possible, by-law requirements for academic degrees will be met. There may be programs where candidates do not usually obtain a Ph.D. degree; equivalencies will have to be substituted as in other areas in the University, e.g., the arts. These program directors and the staffs they assist in recruiting will become part of the instructional staff of Hunter College. If the individual programs develop so that department status is attained, the chairman will be elected as in all other departments in the University. Students also will be taught by members of the instructional staff of the Mount Sinai School of Medicine. Arrangements will be made by the administrators of the two units of the City University for the joint use of these members of the faculty.

Some teaching will be done by clinical staff in the laboratories of Mount Sinai Hospital, its affiliated hospitals and others. An appointment as adjunct (at an appropriate level) will be made in order to incorporate these skilled professionals into the Institute staff as part-time instructors. As members of the staff, they will have the opportunity

to share in the planning and evaluation of the program.

In addition to the faculty identified above there will be need for guidance personnel (funded by the Institute) assigned to the staff of the Dean of Students at Hunter College. Many Students, some of whom will be studying at other units of the University, will need educational and financial support as well as more general counseling. A guidance counselor with a background in the health sciences should be secured.

HUNTER COLLEGE INSTITUTE OF HEALTH SCIENCES

Prospective Students

Seven groups of possible applicants to the Institute may be identified:

1) The high school student who directly or through SEEK (Search for Education, Elevation and Knowledge--a state financed program) is admitted to a senior college. This student may immediately identify himself as a student in the health sciences or may wait until the end of his sophomore year.
2) The graduate of a transfer program of a community college. (City University or others)
3) The graduate of a health technology program (not considered a transfer program) from a community college. (City University or others)
4) The health worker who has had extensive work experience and less than college training, who wishes to qualify for a baccalaureate degree.
5) The senior college graduate who wishes further education as a health professional.
6) A senior college graduate who already is a health professional and wishes to modernize his training in a specialty.
7) The health professional, a senior college graduate who wishes to continue professional education for a higher degree.

In time the Institute may be able to meet this panoply of needs. The health professions need students from an increasing variety of backgrounds.

Total planning should be flexible enough to permit insets of programs as facility, personnel and budget permit.

Initial planning shall be directed to meeting the needs of senior college students in Hunter College and other senior colleges of the University (groups 1) and of transfer students from the community colleges (group 2).

Since professionals with rich work experience will be needed as teachers in the expanding programs at the community colleges the Health Technologies Teacher Preparation Center will continue its program during the period of its grant within the framework of the Institute. A number of experimental programs in higher education have demonstrated that educational requirements for admission which measure only the formal education of the mature adult and not his cultural and professional experiences are short-sighted and inadequate. It deprives society, for too long, of the services of these professionals at a level appropriate to their abilities.

Students from the senior colleges and transfer students from the community colleges may differ in preparation and in talents. Programs, however, will also differ in their demands. Some that are research oriented may require talent in mathematics and the natural sciences; those in some areas which are patient and community oriented will require interest and talent in the social sciences and the arts. Counseling prior to admission will aid in placing each student in the type of program for which he has the educational equipment and motivation.

Some gifted students who enter college with high academic achievements should be encouraged to complete their bachelors' and masters'

education in less than the usual 5 1/2 to six year period. Opportunity will be provided for these students to earn a B.A. or B.S. and an M.S. in health sciences in 4 to 4 1/2 years. Summer work would be extensive in those areas that require internship for accreditation. This compact program will be most feasible for students who offer advanced credit from college level high school courses.

Talent is not always identifiable by high school averages. There are many students who might not qualify by usual entrance requirements whose background would enrich the health professions. Among the methods which might be examined to motivate students to enter this rigorous training are:

----- experimental admission, at the freshman year, of a small group of students (approximately 25) whose total high school record and recommendations indicate they could handle the academic program. A grant would be requested to provide tutorial work and guidance. In some instances they would be encouraged to extend the first two years to three. An introduction of the professional field experience into the first two years might be stimulating to this pilot group;

----- assistance from the advisors in the SEEK program would be sought in the pilot program suggested above. Encouragement and motivation toward a health career might be developed in SEEK students through experience in courses A and B (diagram #3);

----- recommended students in the technical programs (AAS) of the community colleges would be accepted into courses A and B. If their experiences in these Institute courses were successful, special programs could be planned to permit eventual transfer. Academic deficiencies would, of

course, be made up;

-----cooperative effort with the College Discovery program through the Institute clinical programs might serve as inspiration for further education of the young student in the health sciences;

-----use of proficiency examinations for college credit for the mature student with work experience.

HUNTER COLLEGE INSTITUTE OF HEALTH SCIENCES

Admission

For students within the City University:

Admission to the first year of any senior or community college of the City University will be handled by the registrar of that institution. (See catalogue of the institution for specific information.)

Students will file application for admission to the Institute in the spring of the second year at the Community or Senior College.

Admission will be determined by examination of record and personal interview.

For students from other Colleges:

Students from outside the City University system will make application for transfer to the City University through the Admissions Office of Hunter College. The student will apply to the Institute in the same manner as described above.

HUNTER COLLEGE INSTITUTE OF HEALTH SCIENCES

Curriculum Design (Baccalaureate Program)

A prototype curriculum for the proposed Institute has been based on the concept that only students educated in the social sciences, humanities, arts and natural sciences will have the breadth of understanding and the professional discipline to use their skill and knowledge effectively.

Diagram #3 illustrates a prototype curriculum comprised of liberal arts base, specialized science, technical courses and clinical experience: various combinations of which will prepare students to become health professionals in patient, community, research, or administration centered health services.

1) All students will enjoy a liberal arts program throughout their four years, with the largest segment in the first two years.
2) All students will take a group of science courses, which will serve as a common core for a number of programs.
3) All students will take selected courses in the behavioral sciences. These will assist every member of the health team, regardless of his speciality, to develop some understanding of behavior motivated by health needs and thus, in effect, be a "health educator".*
4) All students will take specialized courses in the junior and senior years either in the natural sciences, e.g., human anatomy, or social sciences, e.g., urban problems.

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*The concentration of science courses in preparation for laboratory centered professions almost eliminates this area.

These are analogous to major liberal arts courses in the Hunter College B.A. curriculum.

5. A broadly based course in Public Health Concepts will be required of all students in the Institute at the beginning of the junior year.
6. During the senior year all Institute students and Medical School students will participate in appropriate courses and share field experiences in community medicine.
7. All students will take courses which are specifically planned for professional competency, e.g., radiation therapy. These courses may be offered by Hunter College staff based at the Institute or by the staff of the Medical School, the affiliated hospitals or other community agencies.
8. An interdisciplinary Health Science course (see A, Diagram #3) open to all first-year students at Hunter College will provide a background for understanding health services in our society. It will be aimed at developing an understanding of the perspective, the magnitude, the complexity of health problems and health services. It is anticipated that this course also will be introduced into the curricula of the Community Colleges. These students who enter the Institute program in their junior year will thereby have comparable background.
9. A field experience will be offered during the sophomore year. This will afford students an opportunity to observe the

relationships of all the members of the health team in a variety of settings. (see B on Diagram #3) Students who do not take course A or have field experience B may be asked to make-up these courses during the summer between the sophomore and junior year.

10. Opportunity for lateral transfer from one program to another will be provided.

11. Requirements for graduate schools will be considered in curriculum design. Where gaps exist because of the demands of the baccalaureate program, opportunity will be provided for making up these requirements at various branches of the University.

12. Programs will be planned to meet national accreditation or licensing standards. Some programs may require a period of internship after the bachelor's degree.

HUNTER COLLEGE INSTITUTE OF HEALTH SCIENCES

Proposed Programs

The health field is burgeoning with new vocational opportunities. Careers are described for technologies that did not exist a decade ago. The education for many technical careers is well developed in the Community Colleges of the City University: a new two-year unit for preparation of skilled manpower in the health field has just been approved. It is not the intent of this Institute to duplicate these contributions. It is our intent to develop baccalaureate and masters' programs to educate the health professional capable of independent action and judgment.

Professional opportunities may be categorized as centered around the patient, the research and clinical laboratory, the administration of health services, or the community. A few illustrations will identify these activities. We shall need well educated students:

----- to share in patient-centered programs such as physical therapy, electrodiagnostic services (electromyography, electroencephalography, electrocardiography, etc.), radiotherapeutic and isotope technologies, dietetics, and speech therapy and audiology;

----- to work side by side with the senior research investigators or clinicians;

----- to work in community centered agencies to translate the needs of the community to the health services profession and the services of the professional to the individual citizen;

----- to serve in administration of institutions for health services.

The preliminary planning for the programs detailed below has been developed after the following investigations:

Site visits to Schools of Allied Health (see Appendix E);

Consultations with experts in the Health Professions (see Appendix B):

Consultations with government officials (see Appendix B);

Study of curricula of leading schools;

Study of recommendations of professional groups (including accrediting agencies);

Study of the literature (see Appendix G).

Further planning will await the selection of program chairman, the recommendations of the Joint Academic Committee (see page 13), and the recommendations of the special committee of the Faculty of the Mount Sinai School of Medicine (see Appendix D).

A study of the summary table of credit distribution (page 43) for seven contemplated programs reveals that there are common elements:

Basic requirements in social sciences and humanities;

Basic science (differing in quantity);

The Public Health Core.

There are segments which vary widely from program to program:

The advanced science courses, specialized study, professional courses, clinical and field experience.

Every effort was made to devise programs that would not exclude students who delayed their decision to enter the health sciences until the end of the sophomore year or transferred from community colleges. This decision can be late for those fields requiring a more modest science base; late decision to enter the laboratory and clinical professions

will necessitate summer work. Extensive educational counseling will be necessary to insure that individual freedom of choice and decision results in a sound, functional program.

Suggested curricula are presented for three patient oriented programs (Radiotherapeutic Technologist, Communications Scientist, and Physical Therapist); one community oriented program (Community Health Educator); and one laboratory oriented program with alternate professional specializations (these are merely illustrative of the thirteen programs we are suggesting in our enrollment projections):*

RADIOTHERAPEUTIC TECHNOLOGIST

Many two-year programs are developing technicians who can competently operate x-ray machines under the physician's specific direction and supervision. Two years ago, Dr. John Boland, Professor of Radiotherapy and Chairman of the Department of Radiotherapy at the Mount Sinai School of Medicine received a grant of $978,826 from the Bureau of State Services (Community Health) of the Department of Health, Education, and Welfare to develop the first School of Radiotherapeutic Technology in the United States. The educational program is designed to prepare health professionals, who in cooperation with, and under supervision of, the physician and physicists take part in planning treatment and applying prescribed radiation (using the most advanced procedures and techniques). This is presently a two-year program open to students who have had a minimun of two years of college. The second group of students will be enrolled in September, 1968. Up to this time no academic degree has been awarded. Joint committees are now at work to develop a program that will include this School in

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*See TABLE II

the Institute and permit the awarding of a bachelor's degree. The proposed curriculum on page 38 (as yet completely tentative) reveals that these students will complete the following:

Basic requirements (with the exception of a foreign language) for the bachelor's degree;

A basic science core (including calculus and one year each of biology, chemistry, and physics);

Seven advanced or specialized courses in math and science (including statistics, radiation biology, radiation physics, physiology, anatomy, histology, and pathology);

Eleven credits of professional course work and eight credits of a practicum (600 hours);

The common core of eight credits in public and community health.

In order to meet accreditation standards set by the American Registry of Radiologic Technologists, these students will require an additional 1,800 hours of clinical experience. It is planned to make this experience available in the summer between the junior and senior year and in the months following the awarding of the B.S. degree. During this period of clinical experience the students will be paid from grant funds. After the expiration of the grant, stipends will have to be secured from employers or other sources. This design of completing the practicum or internship after graduation is one that has been adopted by a few institutions who do not wish to restrict their academic program by granting college credit to a whole year of clinical experience. It is anticipated that in future years this area will be broadened to include related biophysical technologies and that a master's program will be developed, possibly in cooperation with the engineering school.

COMMUNICATIONS SCIENTIST (Speech Therapy and Audiology)

Speech Pathology and Audiology is an area of professional specialization which has developed out of concern for people with disorders in the processes of communication. Workers in the field must utilize the skills and interests developed in the behavioral, biological, and physical sciences as well as in the professional sequences if they are to successfully handle the complexity of problems in their patients.

This program has developed at Hunter College within the Department of Speech and Theatre. The consultants were approached by department members who saw an opportunity to strengthen this area through identification with the Institute and its clinical resources. Such joining of forces will encourage students with scientific interests to enter the field; it will afford greater opportunity for research in the laboratory and the community.

This curriculum (page 39) includes the following:

Basic requirements for the bachelor of arts degree;

Basic science--one year of biology (may be expanded to include physics);

Eight specialized courses in neurology, speech science, voice production, advanced phonetics, hearing impairment, speech pathology (2), auditory and speech training, and statistics;

The common core of eight credits in public and community health;

Four credits of practicum;

Four courses in the behavioral sciences (in addition to social science core).

Students studying in this area could qualify as Teachers of the Speech and Hearing Handicapped by taking three basic courses in education and one specialized course in Student Teaching in Speech

and Hearing (total of twelve credits).

A strong master's program is now being offered in the Division of Arts and Sciences. This, too, will become part of the Institute offerings. It is anticipated that at least a year will be required to phase these programs into the Institute. Affiliation arrangements will be completed by Fall, 1969.

PHYSICAL THERAPY

The need for academically trained physical therapists has been adequately substantiated in surveys conducted by several voluntary and governmental health agencies. Recent legislated changes in the delivery of health care have made the need for physical therapists even more critical in New York City due to the ever-growing demand and the keen competition among the rapidly growing health and hospital facilities. The need for these health professionals is more pronounced in New York City than in other sections of the country. In recognition of this situation and in an effort to offer professional careers to students who cannot avail themselves of programs in the private universities, high priority will be given to the establishment of physical therapy programs within the framework of the Institute of Health Sciences.

The suggested curriculum includes the following:

Basic requirements for the bachelor's degree (exception of a foreign language);

Basic science core (one year of biology, one year of chemistry, one year of physics, and one-half year of mathematics);

Specialized and advanced courses (including human anatomy, human physiology, body mechanics, kinesiology, and pathology);

Public Health core of eight credits;

Behavioral sciences--three courses (exclusive of social science requirement);

Professional courses in content and methodology;

Practicum of 600 hours.

COMMUNITY HEALTH EDUCATOR

The majority of professionals in community health education have come to the field indirectly through nursing, teaching, journalism, or social work. Master's degrees have been awarded exclusively at Schools of Public Health. The acute need for health educators, particularly those sensitive to the needs of a disadvantaged population, has mandated other ways to train this professional. In December, 1967, the National Commission on Accreditation requested the American Public Health Association to evaluate bachelors' programs and to accredit masters' programs in universities (see Appendix F).

The Institute will have one of the first University programs in this field planned with consultants of the American Public Health Association, and thereby qualified to make application for grant support under the Allied Health Professionals Act.

The settings where health educators are needed are numerous and varied; health and welfare department, voluntary health agencies, hospitals, neighborhood centers, home-care programs, medical group practice units, extended care facilities, regional planning bodies, housing developments, community coordinating agencies, free standing or affiliated diagnostic and treatment centers, schools and training courses, and industrial agencies.

There is acute need for the community health worker who can train the indigenous worker who, in turn, can help neighbors who understand, trust, and believe him.

A Statement of Functions of Community Health Educators issued by the Society of Public Health Educators (SOPHE) in March, 1967 described the preparation for the bachelors and masters as follows:

> "The master's degree preparation constitutes a professional preparation which centers on the theoretical bases of health education practice and on the development of analytical and planning skills. It provides the student with an integrated body of concepts and principles derived primarily from the educational and social sciences.
>
> By contrast the bachelor's degree program provides the student with a broad liberal arts base in education and prepares him in the basic sciences that supply the conceptual underpinning for health education practice. It also should provide the beginning skills in health education practice.
>
> Both levels of preparation combine academic and field experience, and require well qualified faculty."

The areas of knowledge and skills fundamental to community health education practice are:

Determinants of human behavior;

Education theory:

Education methods (particularly communications media, group work, community organization, writing, speaking):

Foundations for public health education practice;

Program planning;

Administration;

Research methods in the field.

The suggested curriculum on page 41 attempts to introduce the undergraduate student to these major areas and develop his skills in several. It includes the following:

Humanities and social sciences to fulfill basic requirements (without language requirement);

Basic sciences (including one year of biology and chemistry; one half year of physics and math);

Specialized science and advanced courses in nutrition, microbiology, physiology, environmental health, epidemiological methods, epidemiology, and statistics;

Behavioral and social sciences (including group dynamics, learning theory, growth and development, medical sociology, psychology, and urban problems);

Professional courses in principles, practices, and administration of health education programs;

Practicum of field training for one summer.

LABORATORY TECHNOLOGIST

The information explosion in the biomedical sciences, resulting from the revolutionary development in research and clinical methodology, has changed the laboratory beyond recognition. Hence, education for the health professional in the laboratory must be restructured. Basic preparation must be stronger; clinical training will include automated procedures and data processing methods. A course in computer science will be incorporated in professional offerings. Flexibility must be great enough to prevent obsolescence of skills.

Four-year programs for certification by the Board of Medical Technologists usually include two years of general education, one year of classroom specialized study and one year of internship. The consultants for this study do not believe this plan is educa-

tionally desirable for this Institute. The National Committee on Manpower for Medical Education, held October, 1967, recommended that "Colleges and Universities should be encouraged to strengthen baccalaureate curricula for education in medical technology, and the current system of three years of college and one year of clinical training reviewed. New curricula and teaching methods should be explored." This report suggests a curriculum (page 42) which might be followed by an internship which could be used for accreditation as Medical Technologist. A student might decide to take another sequence in the professional area which would be directed toward the research rather than clinical laboratory. In that case the practicum would be a rotation in the research laboratories and the specialized courses indicated in the professional section would also be directed toward this end. Education with the research inset would be an excellent preparation for graduate work in the biological sciences or medicine. This suggested curriculum includes the following:

Basic requirements for the bachelor's degree (exception of a foreign language);

Basic science core (including a year of calculus, biology, physics, and two years of chemistry);

Specialized and advanced courses (including statistics and computer sciences, physiological chemistry, microbiology, physiology, pathology, hematology, and immunology);

Public health core of eight credits;

Professional courses and clinical practicum to be followed, if desired, by an internship to achieve certification as a medical technologist;

OR

Further advanced courses in the chemical, physical or biological sciences and rotating research internships.

This is the most demanding curriculum proposed. Only students with superior academic records will be encouraged to select this sequence.

Health Technologies Teacher Preparation Center

The City University is currently conducting a Health Technologies Teacher Preparation Center under a $207,850 grant from the W.K. Kellogg Foundation. The time schedule of the grant is April 1, 1967 to March 31, 1970. One of the objectives of this program is to establish the Health Technologies Teacher Preparation Center begun by the City University under the auspices of the Community College Careers Project as a continuing University offering. The following paragraph appears in the grant request:

"As criteria and guidelines are developed, CUNY proposes to incorporate them into the HTTP program. The study committee, through progress reports, observations, and periodic meetings, will be asked to assess the efficacy of the evolving HTTP program preparatory to establishing it as a regular offering, or as a concomitant departmental activity in its proposed Health Careers Center" (this term was used to describe the proposed Institute of Health Sciences.)

It appears to be educationally sound to develop this Teacher Training Center within the framework of the Institute during the remainder of the grant period. At the end of this period the Joint Academic Committee of the Institute, with guidance from the Center for Curriculum, Research, and Development, will be in a position to make recommendations concerning this program.

TENTATIVE ---
SUBJECT TO CHANGE

Suggested 8 term curriculum for

RADIOTHERAPEUTIC TECHNOLOGIST

TERM	CREDIT	LIBERAL ARTS: BEHAVIORAL SCIENCES	LIBERAL ARTS: NON-SCIENCE	LIBERAL ARTS: SCIENCE & MATH	PROFESSIONAL COURSES: CLINICAL, FIELD, PRACTICUM
Post B.S.					Internship to complete requirements for Accreditation after Graduation
8	15.0	Behavior Z (3*)	Optional (3)	Statistics (3)	300 Hrs. Practicum (4) COMMUNITY HEALTH (2)
7	15.0	Behavior Y (3)	Music or Art (3)	Rad. Bio. (2)	300 Hrs. Practicum (4) Basic Techn. (3)
Summer					Practicum: 8 Hrs./day 50 days, 10 Wks., 400 Hrs. NO CREDIT
6	15.0		Optional (3)	Physio. (3) Rad. Phy. (3)	Basic Techn. (3) Basic Techn. Lab. (3)
5	14.0	Behavior X (2)		Histol. (3) Anat. (2) Path. (2)	Prin. Rad. (1) CORE PUBLIC Basic Pat. Care (1) HEALTH (3)
Summer					
4	17.0	Psychology (3) (Soc. Sci.)	Eng. (3) Phil. (3)	Org. Chem. (4) Optional (3)	PUBLIC HEALTH (FIELD) (1)
3	17.5	Sociology (3) (Soc. Sci.)	Eng. (3) Soc. Sci. (3) Phys. Ed. (.5)	Inorg. Chem. (4) Phys. (4)	
Summer					
2	16.5		Eng. (3) Hist. (3) Phys. Ed. (.5)	Bio. (4) Phys. (4)	BIOLOGY OF HEALTH (2)
1	17.0		Eng. (3) Hist. (3) Phys. Ed. (1) Speech (3)	Bio. (4) Calculus (3)	

TENTATIVE ---
SUBJECT TO CHANGE

Suggested 8 Term Curriculum for

COMMUNICATIONS SCIENCE
Speech Pathology and Audiology - Speech and Hearing Science

TERM	CREDIT	LIBERAL ARTS: BEHAVIORAL SCIENCES	LIBERAL ARTS NON-SCIENCE	LIBERAL ARTS: SCIENCE & MATH	PROFESSIONAL COURSES: CLINICAL, FIELD, PRACTICUM
Post B.S.					
8	15.0	Learning Theory (3*)	Optional (3) Optional (3)	Maternal & Child Health (3)	Clinical COMMUNITY HEALTH (2) Practicum - Audiology (1)
7	17.0	Psychological Tests (3)	Optional (3) Art/Music (3) Soc. Sci. (3)		Auditory Trg. & Speech Read. (3) Clinical Practicum - Speech Path. (1) Clinical Practicum - Audiology (1)
Summer					
6	16.0	Psy. of Except. Children (3)	Hist. (3) Soc. Sci. (3)		Speech Pathology II (3) Hearing Impairment (3) Clinical Practicum-Speech Path. (1)
5	15.0	Child Psychology-Lang. Development (3)	Phil. (3) Hist. (3)		Speech Pathology I (3) CORE PUBLIC HEALTH (3)
Summer					
4	16.0	Psychology of Speech (3)	Eng. (3) Foreign Language (3)	Voice Production (3) Adv. Phonetics (3)	PUBLIC HEALTH (FIELD) (1)
3	15.5		Eng. (3) Foreign Language (3) Phys. Ed. (.5)	Statistics (3) Neurology (3) Hearing Science (3)	
Summer					
2	15.5	Psychology (3) (Soc. Sci.)	Eng. (3) Foreign Language (3) Phys. Ed. (.5)	Bio. (4)	Ecology of HEALTH (2)
1	17.0	Sociology (3) (Soc. Sci.)	Eng. (3) Speech (3) Phys. Ed. (1)	Bio. (4) Math (3)	

TENTATIVE ---
SUBJECT TO CHANGE

Suggested 8 Term Curriculum for

PHYSICAL THERAPY

TERM	CREDIT	LIBERAL ARTS: BEHAVIORAL SCIENCES	LIBERAL ARTS: NON-SCIENCE	LIBERAL ARTS: SCIENCE & MATH	PROFESSIONAL COURSES: CLINICAL, FIELD, PRACTICUM
Post B.S.					Additional Internship for Certification-if Required
8	15.0			Pathology (incl. Neuro. Path.) (3)	COMM. HEALTH (2) Adm. & Supv. (1) Comun. Disor. (1) Prosthetics & Clinical Spec. (6) Orthetics (2)
7	16.0	Clinical Psychology (3*)		Body Mechanics (2) Kinesiology (2)	300 Hrs. Practicum Physical Clinical Practice (4) Modal II (2) Therapeutic Exer. II (3)
Summer					Additional Internship for Certification-if Required
6	15.0	Psychol. Test (3)		Human Physio. (3)	Therapeutic 300 Hrs. Practicum Exercise I (3) Clinical Prac. (4) Physical Model I (2)
5	16.0	Growth & Development (3)	Art/Music (3)	Human Anatomy (4)	Basic Patient Care (1) Tests & Measurements (2) CORE PUBLIC HEALTH (3)
Summer					
4	14.0	Psychology (3) (Soc. Sci.)	Eng. (3) Phil. (3)	Chem. (4)	PUBLIC HEALTH (FIELD) (1)
3	17.5	Sociology (3) (Soc. Sci.)	Eng. (3) Soc. Sci. (3) Phys. Ed. (.5)	Chem. (4) Physics (4)	
Summer					
2	16.5		Eng. (3) History (3) Phys. Ed. (.5)	Physics (4) Bio. (4)	ECOLOGY OF HEALTH (2)
1	17.0		Eng. (3) History (3) Phys. Ed. (1) Speech (3)	Math (3) Bio. (4)	
	127.0	*Indicates Course Credit			

Suggested 8 Term Curriculum for

TENTATIVE ---
SUBJECT TO CHANGE

COMMUNITY HEALTH EDUCATOR

TERM	CREDIT	LIBERAL ARTS: BEHAVIORAL SCIENCES	LIBERAL ARTS: NON-SCIENCE	LIBERAL ARTS: SCIENCE & MATH	PROFESSIONAL COURSES: CLINICAL, FIELD, PRACTICUM
Post B.S.					
8	14.0	Learning & Group Dynamics (3)	Opt. (3)	Epidemiology (3)	COMMUNITY HEALTH (2) Org. Admin. Of Public Health Programs (3)
7	15.0	Urban Prob. (3)	Opt. (3)	Epidemiology Methods Lecture (4) Lab	Introd. Public Health Prac. (4) Audio Visual Techniques in Health Education (1)
Summer	6.0				Supervised Field Training (6)
6	12.0	Growth & Development (3)	Phil (3)	Environmental health (3)	
5	15.0	Medical Soc. (3)		Statistics (3) Nutrition (3) Micro. Biology (3)	Principles & Practices (3) — CORE PUBLIC HEALTH (3)
Summer					
4	14.0		Eng. (3)	History (3)	Physiology (3) Organic Chem. (4) — PUBLIC HEALTH (FIELD) (1)
3	16.5	Psychology (Soc. Sc.) (3)	Eng. (3)	Art/Music (3) History (3) Phys. Ed. (.5)	Inorganic Chem (4)
Summer					
2	16.5	Sociology (Soc. Sc.) (3)	Eng. (3)	Phys. Ed. (.5)	Physics (4) Bio. (4) — ECOLOGY OF HEALTH (2)
1	17.0		Eng. (3) Soc. Sc. (3) Speech (3) Phys. Ed. (1)		Math (3) Bio. (4)

TENTATIVE ---
SUBJECT TO CHANGE

Suggested 8 Term Curriculum for

LABORATORY SCIENCE TECHNOLOGIST
(Leading to M.T. Degree)

TERM	CREDIT	LIBERAL ARTS: BEHAVIORAL SCIENCES	LIBERAL ARTS: NON-SCIENCE	LIBERAL ARTS: SCIENCE & MATH	PROFESSIONAL COURSES: CLINICAL, FIELD, PRACTICUM
Post B.S.					Lab. Internship To Meet M.T. Certification
8	16.0		Opt. (1)	Computer Science (3) Hematology (3)	Clinical Courses (7) COMM. And Lab. Internship HEALTH (2)
7	16.0		Art/Music (3) Opt. (3)	Physiol. Chem. (4)	Clinical Courses (6) And Lab Internship
Summer					Lab Internship
6	15.0			Pathol. (2) Org. Chem. (4) Statistics (3)	Clinical Courses And Lab Internship (6)
5	16.0		Phil. (3)	Micro. Biology (3) Org. Chem. (4) Physio (3)	CORE PUBLIC HEALTH (3)
Summer					
4	14.0	Psychology (3*) (Soc. Sc.)	Eng. (3)	Chem. (4) Histology (3)	PUBLIC HEALTH (FIELD) (1)
3	17.5	Sociology (3) (Soc. Sc.)	Eng. (3) Soc. Sc. (3) Phys. Ed. (.5)	Chem. (4) Physics (4)	
Summer					
2	16.5		Eng. (3) History (3) Phys. Ed. (.5)	Physics (4) Bio. (4)	ECOLOGY OF HEALTH (2)
1	17.0		Eng. (3) Speech (3) Phys. Ed (1) History (3)	Calculus (3) Bio. (4)	

TABLE I

SUMMARY OF SUGGESTED COURSES IN UNDERGRADUATE

CURRICULA ILLUSTRATING DIFFERENT TYPES OF PROGRAMS

FOR THE INSTITUTE OF HEALTH SCIENCES

PROGRAMS	HUMANITIES & SOC. SCIENCES (Incl. Fine Arts, Speech)	SCIENCES & MATH (Basic)	ADVANCED COURSES (Math, Science, Others)	BEHAVIORAL SCIENCES (In addition to Soc. Sci. Requirement)	PUBLIC OR COMMUNITY HEALTH	PROFESSIONAL COURSES	PRACTICUM OR INTERNSHIP	ORTHOSIS	PHYSICAL EDUCATION
PATIENT ORIENTED									
Radiotherapeutic Technologist	36	27	18	8	8	11	8 (600 Hrs.) 1800 after B.S.	0	2
Physical Therapy	36	27	14	9	8	23	8 (600 Hrs.)	0	2
Communications Science (Speech Therapy and Audiology)	36+ (9) Lang	11	18	18	8	12	4	0	2
Dietetics	36	19	16	9	8	28	One year after B.S.	7-10	2
RESEARCH OR LABORATORY ORIENTED									
Laboratory Science Technologist leading to: (A) Medical Technology	36	35	24	0	8	11	8 (600 Hrs.) 1800 after B.S.	4	2
(B) Research Biology Assistant	36	35	24	0	8	11	8 (Research Experience)	4	2
COMMUNITY ORIENTED									
Community Health Educator	36	23	22	12	8	11	6 (Summer)	0	2

HUNTER COLLEGE INSTITUTE OF HEALTH SCIENCES

Enrollment Projections

The present and anticipated need for education of health professionals at the baccalaureate and master's levels is so great that program enrollment will be limited only by budget, availability of faculty, and public knowledge of the existence of the program. This contention is supported by the fact that a large number of students from the Metropolitan area are forced to seek education in the health fields in out-of-city Allied Health Schools.

On the basis of growth in similar institutions it is anticipated that, facilities permitting, ten to thirteen programs will be in operation by the end of a five-year period. Enrollment projections (see Table II, page 46) are based partly upon demand for specific programs at other institutions and partly on demand at Hunter College for programs currently in operation. The introduction of specific offerings are tentative. As underlined in the section on Proposed Programs, these may be modified by the recommendations of our various technical advisory groups. Expressed wishes of citizen groups may also be a factor in the decision to offer a particular sequence. The delay in the date for initiation of a laboratory oriented program is based on the assumption that the Institute will not be in permanent quarters for five years. If circumstances are such that the Institute will have animal rooms and chemical laboratories at an earlier date, the date for the inauguration of these programs will be advanced.

The projection for master's level programs is as follows:

PROGRAM	SUGGESTED DATE OF INTRODUCTION
Communications Science (Speech Therapy and Audiology)	1968
Community Health Educator	1969
Occupational Therapy	1969
Physical Therapy	1969
Nutrition	1970
Research and Laboratory Oriented Curricula	1970

The expected size of the combined programs is indicated by Table III, page 50. Approximations were made of part-time students in various refresher and post-graduate courses. This may well be on the low side. Recommendations by advisory committees at the School of Medicine and other health agencies will determine the nature and extent of such courses.

It is hoped that in the future these unique programs may assist in the development of health professionals for service in foreign countries. This component of "foreign aid" by health manpower development would indeed be a contribution to world welfare.

TABLE II

ENROLLMENT PROJECTIONS
BASED UPON THIRTEEN BACHELOR'S PROGRAMS

PROGRAM	1969-70	1970-71	1971-72	1972-73	1973-74*
Radiotherapeutic Technology**	25j+	20s++ 25j	50j 20s	40s 50j	50j 40s
Communications Science** (Speech Therapy and Audiology)	30j	25s 35j	40j 30s	35s 50j	50j 40s
Dietetics**	25j	20s 25j	35j 30s	30s 35j	35j 30s
Community Health Educator	25j	20s 25j	50j 20s	40s 50j	50j 40s
Electrodiagnostic Technologist	25j	20s 25j	25j 20s	20s 25j	30j 20s
Medical Record Administrator (Accrediting & Utilization)	25j	20s 25j	30j 20s	25s 30j	35j 25s
Physical Therapy	25j	20s 25j	30j 20s	20s 30j	35j 25s
Occupational Therapy	25j	20s 25j	30j 20s	20s 30j	35j 25s
Cardiopulmonary Technologist (includes Inhalation Therapy)		25j	20s 25j	30j 20s	25s 30j
Orthotist and Prosthetist		25j	20s 25j	25j 20s	20s 25j
Pathology Technologist			25j	20s 25j	30j 20s
Laboratory Technologist (Research)				25j	20s
Laboratory Technologist (Medical)				50j	40s
TOTALS	205	425	585	745	775

*Institute in permanent quarters
**Program currently in operation
+Students in Junior year
++Students in Senior year

HUNTER COLLEGE INSTITUTE OF HEALTH SCIENCES

PROJECTED Time Schedules - Facilities - Budget

The feasibility study is now housed in quarters rented by Hunter College. The projected budget is based on the assumption that there will be two moves before the permanent quarters are ready. The first move (Phase I) will be to a space of approximately 3,500 square feet. The next move (Phase II) to larger quarters (approximately 80,000 square feet) is planned for the summer of 1969. It is anticipated that the Institute will remain there until the permanent quarters are ready in September, 1973 (Phase III).

PHASE I: July 1, 1968 through June 30, 1969.

The Institute will be engaged in the following activities:

Offering of refresher and post-graduate courses for health professionals;

Conducting conferences and publishing proceedings on subjects directly related to new developments in the health professions e.g., medical-legal aspects of health professional services & training and deployment of manpower;

Completing bibliographical studies, inaugurated this spring, with a view to publication;

Selecting high school students for the pilot program. Conducting seminars and tutoring these students (spring, 1969);

Conducting workshops for the development of Course A (Diagram #3) and presenting Course A and B for faculty and administration approval;

Presentation of Course A in spring of 1969;

Phasing in the Dietetics, Communication Science, Radiotherapeutic Technology and Health Technologies Teacher Preparation (HTTP) programs;

Submitting grant requests for special programs;

Planning with community college administrators toward:

introduction of courses A and B;
educational counseling for students who intend to apply to the Institute;
introduction of "adapting" sequences for students in AAS programs;

Arranging for agency affiliation (medical, research, community);

Preparing curricula for new sequences;

Preparing plans (in consultation with architects) for succeeding temporary and permanent facilities;

Recruiting personnel for faculty, the Center for Research, Curriculum, and Development, administrative, and clerical staffs;

Ordering of educational equipment;

Preparing promotional material for prospective students (in consultation with high school and junior college advisors).

The following are rough estimates of personnel needs:

Faculty ----- nine

Clerical ---- six

Space need is estimated at 3,500 square feet for use of:

Faculty, clerical, administrative, and staff offices; seminar rooms (2), and storage space.

PHASE II: July 1, 1969 through June 30, 1973.

It is estimated that, if faculty can be recruited, there will be thirteen programs in operation with a total student body of 740 undergraduates and 80 full time graduate students plus part-time students by 1973.

The following are rough estimates of personnel needs:

Faculty ---------- 39*

*On the basis of one faculty to each 15 students the number would be 53 for 800 plus full time students. However, some teaching will be done by faculty of the Medical School, staff of the Park Avenue division of Hunter College, and adjunct clinical faculty.

Administrators ----------	4	(two executive officers, one field coordinator, one business manager)
Center for Research, Curriculum, and Development ---	3	
Clerical ----------	13	(4) One for each program (6) For faculty--based on one for each four faculty (3) For administrative function of the Institute
Librarian ----------	1	
Laboratory Assistants ---------	2	
Audio-Visual operator and instructor -----	1	

It is estimated that the need for space will be on the order of 80,000 square feet. (800 full time students x 100 square feet per student = 80,000 square feet) 100 square feet per student is used since students will take some of their courses at Hunter College (Park) and some at the clinical facilities or field agencies. This number may have to be revised upwards if it is found that more of the course work will have to be given at the Institute.

Space need is estimated at 80,000 square feet to accommodate the following:

Classrooms

Seminars for small classes, conferences (including those associated with field and clinic work evaluation)

Laboratories

- Physical and Occupational Therapy
- Radiotherapeutic
- Special Physiology
- Histological
- Anatomy (Gross)
- Others
- Audio-visual (use and demonstration)

Research space for faculty

Library (limited to periodicals and books directly relevant to those aspects of health sciences considered in courses. Hunter College, the Medical School, and the Academy of Medicine Library will be used for further study)

Student lounge with kitchenette and serving counter

Locker rooms

Executive offices

Offices for faculty

Storage space

Operating Cost

Table III summarizes the estimated cost based upon projected enrollments (Table II). These estimates are based on data with so many variables that the estimates must be taken as only suggestive of the magnitude.

TABLE III

Enrollment Projections and Cost

YEAR	Fulltime Students UnderGrad	Grad.	Part-Time Students Grad.	Other	Operating Cost(1)	Rented Space Sq. Feet	Cost(2)	Total Cost
1968-69	(3)	(3)	(3)	25	$235,000(4)	3,500	$17,500	$250,000
1969-70	205	40	30	30	367,500	80,000	400,000	767,500
1970-71	425	50	55	40	712,500	80,000	400,000	1,112,500
1971-72	585	60	60	40	967,500	80,000	400,000	1,367,500
1972-73	745	70	80	40	1,222,500	80,000	400,000	1,622,500(5)

(1) This is based upon $1,500 a full time student. Even though the students will be taking part of their courses at other localities, the expense of faculty to supervise and arrange for clinical and other agency experience will be high. Estimates for running the Center for Research, Curriculum, and Development are also incorporated in this sum.

(2) Cost of rented space at $5.00 a square foot.

(3) Students will still be taking their course work at Hunter College at Park Avenue. Only seminars will be given in the rented quarters.

(4) This amount is to cover the special activities listed in Phase I and all educational equipment that must be ordered for the subsequent years.

(5) No provision has been made for rising costs.

PHASE III: July 1, 1973 through -----

The permanent quarters for the Institute should be planned for approximately 1,000 students. Students will continue to take their liberal arts and basic sciences at Hunter College but the new facility would handle all specialized science.

In order to derive maximum benefit from the teaching and demonstration at the School of Medicine, closed circuit television should connect the two facilities.

Animal rooms will be necessary, not only to supply specimen for physiological investigation, but as a training laboratory for students entering the field of supervision of animal care.

Laboratories in the Institute will be constructed with multiple purpose activities in mind. The use will shift as specialized training requirements change.

Ample research space for faculty must be included in planning. This is a requirement for recruitment of well qualified staff for specialized and professional courses.

The space requirements would be approximately 160,000 square feet if the student body were limited to 1,000. The figure of 160 square feet per student was used to arrive at this approximation despite the fact that some courses will be taken outside the building. The unusual number of laboratories, special facilities, research space, and the space for the Center for Research, Curriculum, and Development as well as other special programs that may join the Institute (including a Speech and Hearing Center and others) prompt the use of this standard.

On this basis the cost would be about $10,400,000, using $65 per square

foot as a standard. During the first year (1968-9) when program can be worked out in greater detail by recruited faculty the specifications can be made with greater confidence.

APPENDICES

APPENDIX A ----- ASSOCIATION OF SCHOOLS OF ALLIED HEALTH PROFESSIONS

APPENDIX B ----- CONSULTATIONS

APPENDIX C ----- CONFERENCES WITH HUNTER COLLEGE STAFF-CUNY STAFF

APPENDIX D ----- ADVISORY COMMITTEE-MOUNT SINAI SCHOOL OF MEDICINE

APPENDIX E ----- SITE VISITS

APPENDIX F ----- PROFESSIONAL PREPARATION OF COMMUNITY HEALTH EDUCATORS-
NATIONAL COMMITTEE ON ACCREDITATION (PUBLIC HEALTH SERVICE)

APPENDIX G ----- BIBLIOGRAPHY: CATEGORIES DEVELOPED FROM LITERATURE SEARCH
FROM 1960 TO PRESENT

APPENDIX H ----- DIAGRAM 1: EDUCATIONAL PATHS

APPENDIX I ----- DIAGRAM 2: HUNTER COLLEGE INSTITUTE OF HEALTH SCIENCES-
SHARED RESPONSIBILITY

APPENDIX J ----- DIAGRAM 3: ILLUSTRATIVE CURRICULUM PLAN

APPENDIX A

ASSOCIATION OF SCHOOLS OF ALLIED HEALTH PROFESSIONS

Aaron L. Andrews, M.P.H., Dean
College of Allied Health Professions
Temple University
Philadelphia, Pennsylvania 19140

Lynn Arbogast, M.D., Director
Division of Allied Health Sciences
Indiana University Medical Center
Indianapolis, Indiana 46207

Robert J. Atwell, M.D., Director
School of Allied Medical Professions
The Ohio State University
Columbus, Ohio 43210

Joseph Hamburg, M.D., Dean
School of Allied Health Professions
University of Kentucky
Lexington, Kentucky 40506

Wesley G. Hutchinson, Ph.D., Dean
School of Allied Medical Professions
University of Pennsylvania
Philadelphia, Pennsylvania 19104

George K. Makechnie, Ed.M., Dean
Sargent College of Allied Health
Professions, Boston University
Boston, Massachusetts 02115

Darrel J. Mase, Ph.D., Dean
College of Health Related Professions
University of Florida
Gainesville, Florida 32601

Edmund J. McTernan, M.P.H., Chairman
Division of Allied Medical Sciences
Northeastern University
Boston, Massachusetts 02115

Harry Parker, Ph.D., Dean
School for Health Related Professions
University of Oklahoma
Oklahoma City, Oklahoma 73104

J. Warren Perry, Ph.D., Dean
School of Health Related Professions
State University of New York at Buffalo
Buffalo, New York 14214

Charles E. Richards, M.D., Director
School of Associated Medical Sciences
University of Illinois
Chicago, Illinois 60612

Sister Mary Stephen, S.S.M., Ed D
Dean, School of Nursing and Health
Services
St. Louis University
St. Louis, Missouri 63104

George F. Stevenson, M.D., Dean
School of Allied Health Sciences
Medical College of South Carolina
Charleston, South Carolina 29401

W.L. Stucker, Director
University Allied Health Programs
University of Missouri
Columbia, Missouri 65202

Ivor C. Woodward, Ph.D., Dean
School of Health Related Professions
Loma Linda University
Loma Linda, California 92354

APPENDIX B

CONSULTATIONS

CONSULTANT	DATE
Council on Medical Education-A.M.A. Chicago, Illinois	Feb 11
Dr. George Rosen, M.D. Columbia School of Public Health	Feb 15
Jack Troupin, M.D. American Public Health Association	Feb 23
Berwyn Mattison, M.D., Thomas Hood, M.D. American Public Health Association	Mar 5
Mr. Sol Lifson, Director of Education National Tuberculosis Association	Mar 15
William Rawls, M.D., Chairman Committee on Hospital-Physicians' Relations New York County Medical Society (A.M.A.)	Mar 27
Dr. Ralph Boatman, Chairman Dept. of Health Education University of North Carolina School of Public Health	Mar 30
George Szasz, M.D., Clyde Slade, M.D. Vancouver School of Medicine	Apr 4
Drs. Jeanette Simmons and Marjorie Young Harvard School of Public Health Boston, Massachusetts	Apr 9
Dr. J. Warren Perry, Dean School of Health Related Professions State University of New York at Buffalo	Apr 19
Dr. Ralph Edwards, Dean of Administration Kingsborough Community College	May 14
Dr. Irving Shapiro, Director Health Education Division Health Insurance Plan, New York	May 14
Mr. Robbin Upton Planning Consultant-Educational Facilities	May 14 & Apr 29
Miss Mary Leder, Staff Associate Training, Research, and Special Studies Division United Hospital Fund	May 28

CONSULTATIONS

HEALTH EXPERTS FROM GOVERNMENTAL AGENCIES

CONSULTANT	DATE
Dr. Philip R. Lee, M.D. Assistant Secretary of Health and Scientific Affairs Bureau of Health Manpower (HEW) Washington, D.C.	May 15 (A.M.)
Dr. Edwin F. Rosinski Deputy Assistant Secretary for Health Manpower Bureau of Health Manpower (HEW)	May 15 (A.M.)
Dr. Frank Ray McKee, M.D. Director of Division of Physician Manpower Bureau of Health Manpower (HEW)	May 15 (A.M.)
Marilyn Hutchinson, M.D. Deputy Director of Division of Physicians Manpower Bureau of Health Manpower (HEW)	May 15 (P.M.)
Charles H. Boettner, M.D. Associate Director Bureau of Health Manpower (HEW)	May 15 (P.M.)
Dr. Alan S. Kaplan Acting Chief Physician Education Branch Division of Physician Manpower Bureau of Health Manpower (HEW)	May 15 (P.M.)
Mrs. Anita Vogel, Director Department of Adult Employment Mobilization for Youth	May 28
Mr. William Agress, Assistant Director Medical Case Services Health Services Administration	May 28
Edward O'Rourke, M.D., M.P.H. Commissioner of Health Health Services Administration	June 17

APPENDIX C

CONFERENCES WITH HUNTER COLLEGE STAFF

CONFREE	COLLEGE AFFILIATION	DATE
Dr. Doris T. Leberfeld	Dept. of Speech and Theatre	Mar 5
Dr. Anne S. Loop	Dept. of Biological Sciences	
Dr. Rose M. Mirenda	Chairman, Dept. of Home Economics	
Dr. Joan Hollinghurst	Director of Admissions	
Dr. Moe Bergman	Dept. of Speech and Theatre	Apr 4
Dr. Norma Rees	Director, Speech and Hearing Center	
Dr. Doris T. Leberfeld	Dept. of Speech and Theatre	
Dr. Robert D. Cross	President, Hunter College	Apr 23
George James, M.D.	Dean, Mount Sinai School of Medicine	
Dr. Walter Weiss	Chairman, Dept. of Psychology	Apr 29
Dr. Benjamin B. Ringer	Chairman, Dept. of Sociology	
Dr. Seymour Mann	Dept. Of Urban Affairs	
Dr. Richard C. Mawe	Chairman, Dept. of Biological Sciences	
Dr. Rose M. Mirenda	Chairman, Dept. of Home Economics	Apr 30
Dr. Anne S. Loop	Dept. of Biological Sciences	
Miss Josephine Burke	Chairman, Dept. of Health & Physical Education	
Dr. Douglas Maynard	Dean of Instruction	Apr 30
Dr. Gordon Fifer	Chairman, Dept. of Educational Foundations	Apr 30
Dr. Marjorie B. Smiley	Dept. of Education	
Dr. Harold E. Tannenbaum	Chairman, Dept. of Curriculum and Teaching	
Dr. Harold Judenfriend	Chairman, Dept. of Special Educational Services	
Dr. Ruth G. Weintraub	Dean, Graduate Studies in Arts & Sciences	May 2
Dr. Milton J. Gold	Director, Teacher Education	
Course of Study Committee		
Dr. Douglas Maynard, Dean of Instruction, Chairman		May 3
Dr. Robert D. Cross	President, Hunter College	May 9
Dr. Moe Bergman	Dept. of Speech and Theatre	
Dr. Marvin L. Seiger	Chairman, Dept. of Speech and Theatre	
Dr. Douglas Maynard	Dean of Instruction	
Dr. Kathryn L. Hopwood	Dean of Students	May 13
Dr. Nyla J. Ahrens	Assistant Dean of Students	
Dr. Florence L. Denmark	Coordinator of SEEK program	
Graduate Course of Study Committee		
Dr. Ruth G. Weintraub, Dean of Graduate Studies, Chairman		May 16
Dr. Marguerite C. Holmes	Chairman, Dept. of Nursing	May 21

CONFERENCES-CUNY STAFF

CONFEREE	DATE
Dean T. Edward Hollander Coordinator of the Master Plan (CUNY)	Feb 6
Miss Muriel Ratner, Director CUNY Health Technologies Teacher Preparation Center	Feb 28
Dean T. Edward Hollander Coordinator of the Master Plan (CUNY)	Mar 8
Dr. Robert Birnbaum Acting Vice-Chancellor for the Executive Offic	Mar 14
Dean Joseph Shenker Acting Dean for Community College Affairs Dr. Seymour C. Hyman, Vice-Chancellor Campus Planning and Development	Apr 18
Dean Joseph Shenker Acting Dean for Community Affairs Miss Muriel Ratner	May 21

APPENDIX D

Allied Health Professionals and
Health Careers Committee
MOUNT SINAI SCHOOL OF MEDICINE

Charles H. Goodrich, M.D., Chairman
Associate Professor
Dept. of Community Medicine
Mt. Sinai School of Medicine

Ernest S. Barash, M.D.
Associate Clinical Professor
Dept. of Orthopaedics
Mt. Sinai School of Medicine

John Boland, M.D.
Chairman and Professor
Dept. of Radiotherapy
Mt. Sinai School of Medicine

Marvin G. Fried, D.D.S.
Associate Clinical Professor
Dept. of Dentistry
Mt. Sinai School of Medicine

Ferenc Hutterer, M.D.
Associate Professor
Dept. of Pathology
Mt. Siani School of Medicine

Stanley Kahane, M.D., M.P.H.
Director, Health Services Program
Gouverneur Hospital of the Beth
Israel Medical Center

Mansho T. Khilnani, M.D.
Professor
Dept. of Radiology
Mt. Sinai School of Medicine

Cynthia R. Kinsella, R.N.,A.M.,Ed.D.
Director, School of Nursing
Mt. Sinai School of Medicine

Harry Kolson, M.D., D.D.S.
Professor
Dept. of Otolaryngology
Mt. Sinai School of Medicine

Norman Metzger, M.A.
Assistant Professor
Dept. of Administrative Medicine
Mt. Sinai School of Medicine

George W. Naumburg, Jr., M.D.
Associate Clinical Professor
Dept. of Psychiatry
Mt. Sinai School of Medicine

S. David Pomrinse, M.D., M.P.H.
Associate Professor
Dept. of Administrative Medicine
Mt. Sinai School of Medicine

Richard E. Rosenfield, M.D.
Professor
Dept. of Medicine
Mt. Sinai School of Medicine

S. Stanley Schneierson, M.D.
Professor
Dept. of Microbiology
Mt. Sinai School of Medicine

Miss Doris Siegal
Director, Social Service
Mt. Sinai School of Medicine

Milton H. Sisselman, M.S.
Assistant Professor
Dept. of Administrative Medicine
Mt. Sinai School of Medicine

Alex J. Steigman, M.D., M.S., Sc.D.
Professor
Dept. of Pediatrics
Mt. Sinai School of Medicine

Lawrence H. Wisham, M.D.
Chairman and Professor
Dept. of Physical Medicine and
Rehabilitation
Mt. Sinai School of Medicine

ADVISORY COMMITTEE-MOUNT SINAI SCHOOL OF MEDICINE

DATES CONVENED

March 20, 1968*

March 28, 1968

April 2, 1968*

April 16, 1968*

April 25, 1968*

May 2, 1968*

May 10, 1968

May 23, 1968*

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*Planning Committee (Pre-Advisory Committee Meeting)

APPENDIX E

SITE VISITS

SCHOOL	CONSULTANT AND LOCATION	DATE OF VISIT
College of Health Related Professions	Joseph G. Benton, M.D., Dean Downstate Medical Center State University of New York 445 Lennox Road Brooklyn, New York	December 10, 1967
College of Allied Health Professions	Aaron L. Andrews, M.P.H., Dean Health Sciences Center Temple University Philadelphia, Pennsylvania	March 7, 1968
College of Health Related Professions	Darrel J. Mase, Ph.D., Dean J. Hillis Miller Health Center University of Florida Gainesville, Florida ADDITIONAL STAFF CONSULTATIONS - FLORIDA Miss Barbara White, Chairman Dept. of Physical Therapy Miss Ruth Williams, Chairman Dept. of Medical Technology Miss Alice Jantzen, Chairman Dept. of Occupational Therapy Dr. B. Thomason, Chairman Dept. of Rehabilitation Counseling Miss Patricia Laurencelle Assistant Professor Core Curriculum for Junior Colleges	March 21, 1968
Division of Allied Medical Sciences	Edmund J. McTernan, M.P.H., Chairman Northeastern University Boston, Massachusetts	April 9, 1968

SITE VISITS (Continued)

SCHOOL	CONSULTANT AND LOCATION	DATE OF VISIT
School of Allied Health Professions	Joseph Hamburg, M.D., Dean University of Kentucky Medical Center Lexington, Kentucky	May 9, 1968
	ADDITIONAL STAFF CONSULTATIONS - KENTUCKY	
	Mr. Richard V. McDougall, Chairman Dept. of Physical Therapy	
	Ralph Eichenberger, M.D., M.P.H. Chairman Dept. of Community Health	
	Joseph Sayeg, Ph.D. Dept. of Radiation Health	
	Miss Mary Frances James, Chairman Dept. of Medical Technology	

APPENDIX F

PROFESSIONAL PREPARATION OF COMMUNITY HEALTH EDUCATORS
Report from the
National Committee on Accreditation (Public Health Service)

At the request of the Public Health Service, the National Commission on Accrediting accepted a contract (PH 110-78) that has as its purpose development of guidelines and criteria for preparation of community health educators and procedures for getting these guidelines and criteria effectively used.

The findings of the National Commission are summarized here briefly:

1) There was reflected unanimously a need for baccalaureate programs for persons seeking a career in community health education; new programs should be initiated and existing programs strengthened; and, there is need for a uniform set of standards applicable to these programs.

2) More recent reports agree that it is appropriate for the community health educator to receive preparation for first level positions at the baccalaureate level.

3) The objective for the undergraduate programs in health education reflected in most of the reports was preparation of the health teacher and to a much lesser extent the community health educator. The objective of the report prepared by the Society of Public Health Educators was to prepare a community health educator only and it did not emphasize a teaching function. This report outlined specific functions, knowledge, concepts and skills which should be acquired by the community health educator completing a bachelor's degree program. Other reports reviewed did not specify this competence.

4) There was general agreement that preparation at the baccalaureate level should be grouped into the following broad academic areas:

a) Foundation courses which provide a broad liberal arts education;
b) Foundation science courses basic to health science;
c) Professional health education courses;
d) Professional education courses.

As noted in item 3 above, the Society of Public Health Educators cited broad content and skill areas.

There was no agreement and for that matter no consideration as to whether the undergraduate courses should be primarily pre-professional or a balance between both professional and pre-professional.

5) All reports agree that some type of field experience is needed to develop skills and this experience should be included in both baccalaureate and master's degree programs.

APPENDIX G

CATEGORIES DEVELOPED FROM LITERATURE SEARCH FROM 1960 TO PRESENT

800 Reprints of Articles
Researched, Reviewed, & Catalogued

ACCREDITATION OF HEALTH PROGRAMS
ADMISSION REQUIREMENTS-ALLIED HEALTH PROGRAMS
BOOKS RELATING TO HEALTH SCIENCES
CONCEPTS:
- HEALTH PERSONNEL AND THE PUBLIC
- HEALTH PROFESSIONAL
- HEALTH INDUSTRY
- JOINT APPROACH TO HEALTH EDUCATION
- PUBLIC HEALTH AND THE POPULATION CRISIS
- TEAM APPROACH TO MEDICAL CARE
- TOTAL CARE
- EVERYONE HAS THE RIGHT TO HEALTH CARE (DISADVANTAGED)

CURRICULUM:
- AUDIOLOGY-SPEECH
- AUXILIARY PERSONNEL
- BIOMEDICAL ENGINEERING
- BLOOD BANK TECHNOLOGY
- COMMUNITY HEALTH EDUCATOR
- CORE CURRICULUM FOR THE HEALTH FIELD
- DENTISTRY
- DIETETICS-NUTRITION
- ELECTRODIAGNOSTIC TECHNOLOGY
- HEALTH EDUCATION
- HEALTH TECHNOLOGY-JUNIOR COLLEGES & VOCATIONAL SCHOOLS
- HOSPITAL ADMINISTRATION AND MAINTENANCE
- INHALATION THERAPY
- LABORATORY TECHNOLOGY
- MEDICAL ILLUSTRATION
- MEDICAL TECHNOLOGY-CYTOTECHNOLOGY-HISTOLOGY
- MENTAL HEALTH
- MIDWIVERY
- NURSING
- OCCUPATIONAL THERAPY
- OPERATING ROOM TECHNOLOGY
- PATHOLOGY
- PEDIATRICS
- PHYSICAL THERAPY
- PHYSICIANS' ASSISTANTS
- PODIATRY
- PROSTHETICS AND ORTHETICS
- RADIOLOGIC-RADIOTHERAPEUTIC TECHNOLOGY
- REHABILITATION
- SANITARIAN
- VETERINARIAN
- X-RAY TECHNOLOGY

CATEGORIES DEVELOPED FROM LITERATURE SEARCH FROM 1960 TO PRESENT
(CONTINUED)

EDUCATIONAL RESOURCES INFORMATION CENTER
FELLOWSHIPS, STUDENT LOANS
GRANT:
- CONSTRUCTION
- IMPROVEMENT
- NEW PROGRAMS
- RESEARCH

HEALTH PERSONNEL-EDUCATION AND TRAINING
HEALTH PERSONNEL-INTERNATIONAL
HEALTH STATISTICS
HOSPITALS
HUNTER COLLEGE INSTITUTE OF HEALTH SCIENCES-HISTORY
MANPOWER:
- EFFECTIVE UTILIZATION
- REQUIREMENTS-SHORTAGES
- SOURCES

MEDICAL EDUCATION AND TRAINING
MEDICAL LEGISLATION:
- FEDERAL
- STATE
- MUNICIPAL

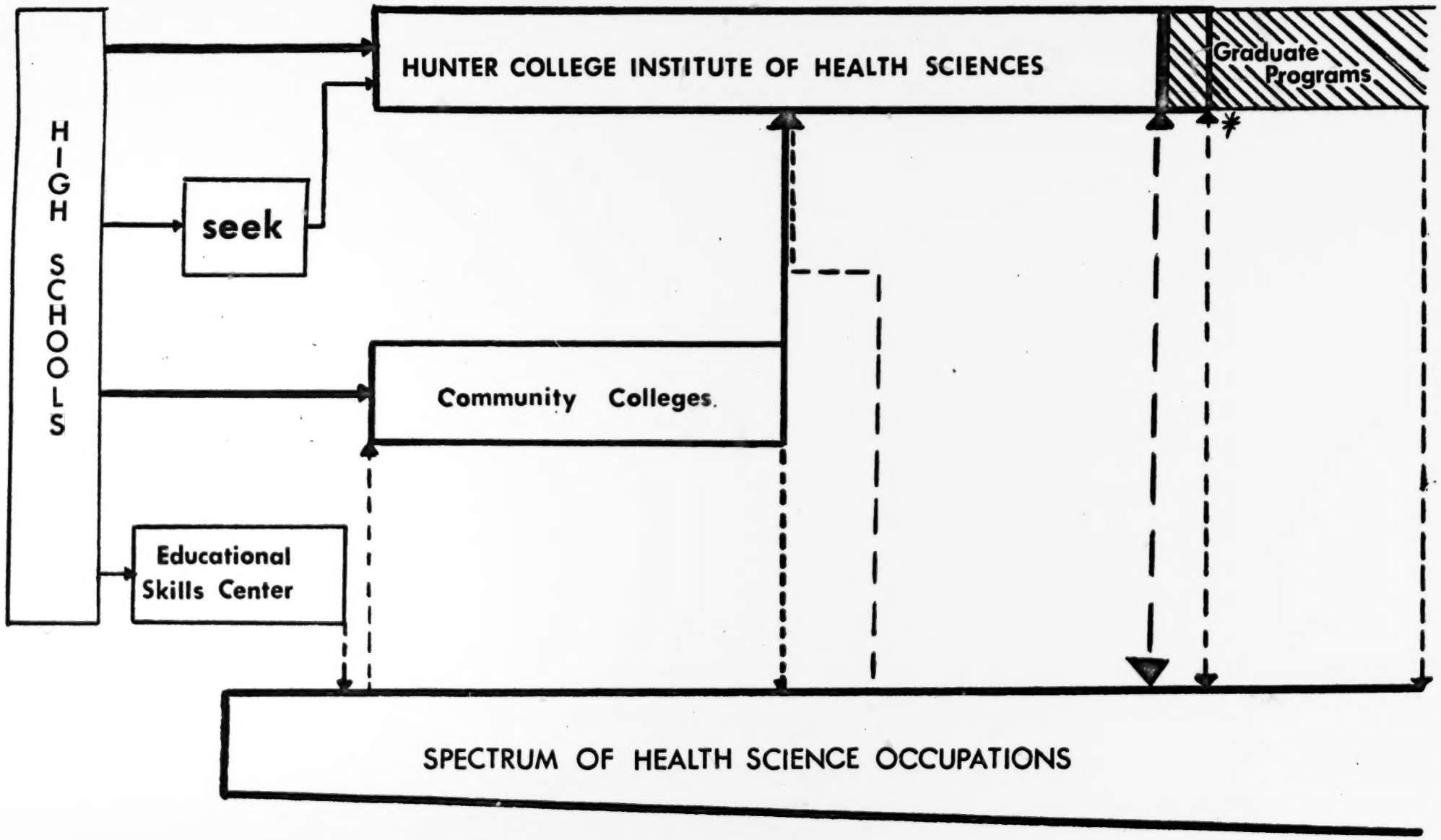
ORGANIZATIONS: MEDICAL AND HEALTH RELATED PROFESSIONS
PERSONNEL-FACULTY: INSTITUTE OF HEALTH SCIENCES
PHYSICAL FACILITIES: INSTITUTE OF HEALTH SCIENCES
SCHOOLS OF PUBLIC HEALTH, MEDICAL COLLEGES, COLLEGES OF ALLIED HEALTH

diagram I

APPENDIX H

CITY UNIVERSITY

EDUCATIONAL PATHS IN HEALTH SCIENCES



April 1968

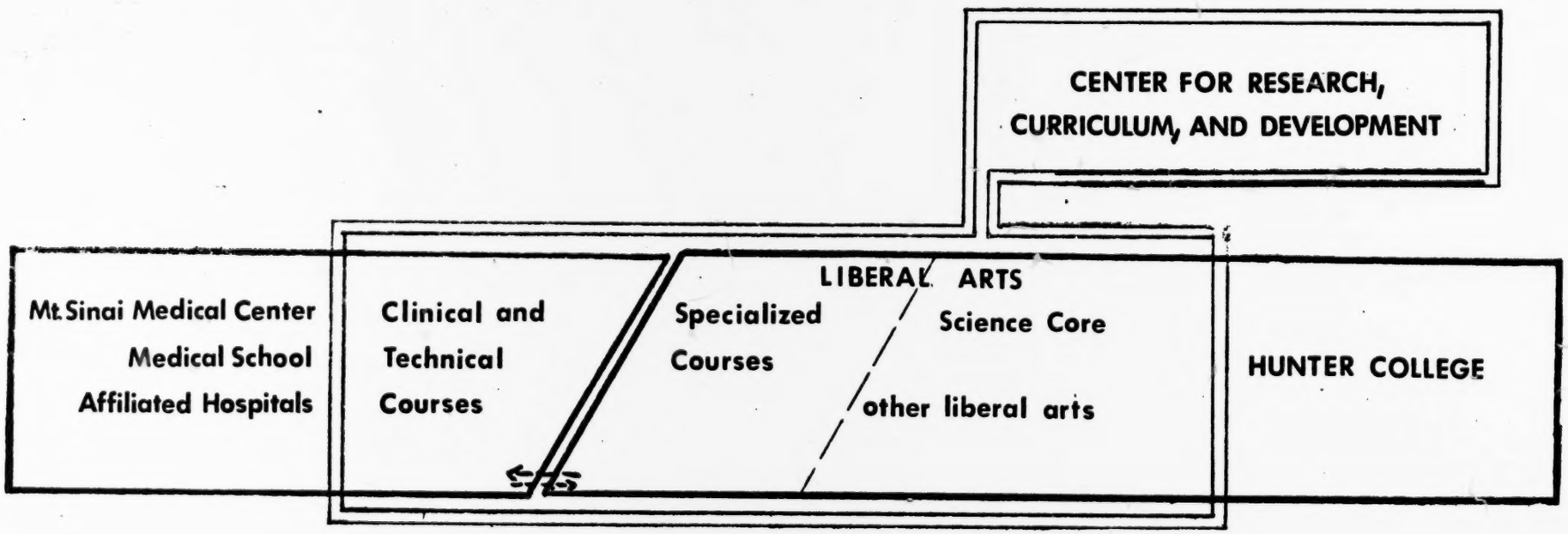
*other 4 year programs in university

diagram 2

APPENDIX I

CITY UNIVERSITY

HUNTER COLLEGE INSTITUTE OF HEALTH SCIENCES



April 1968

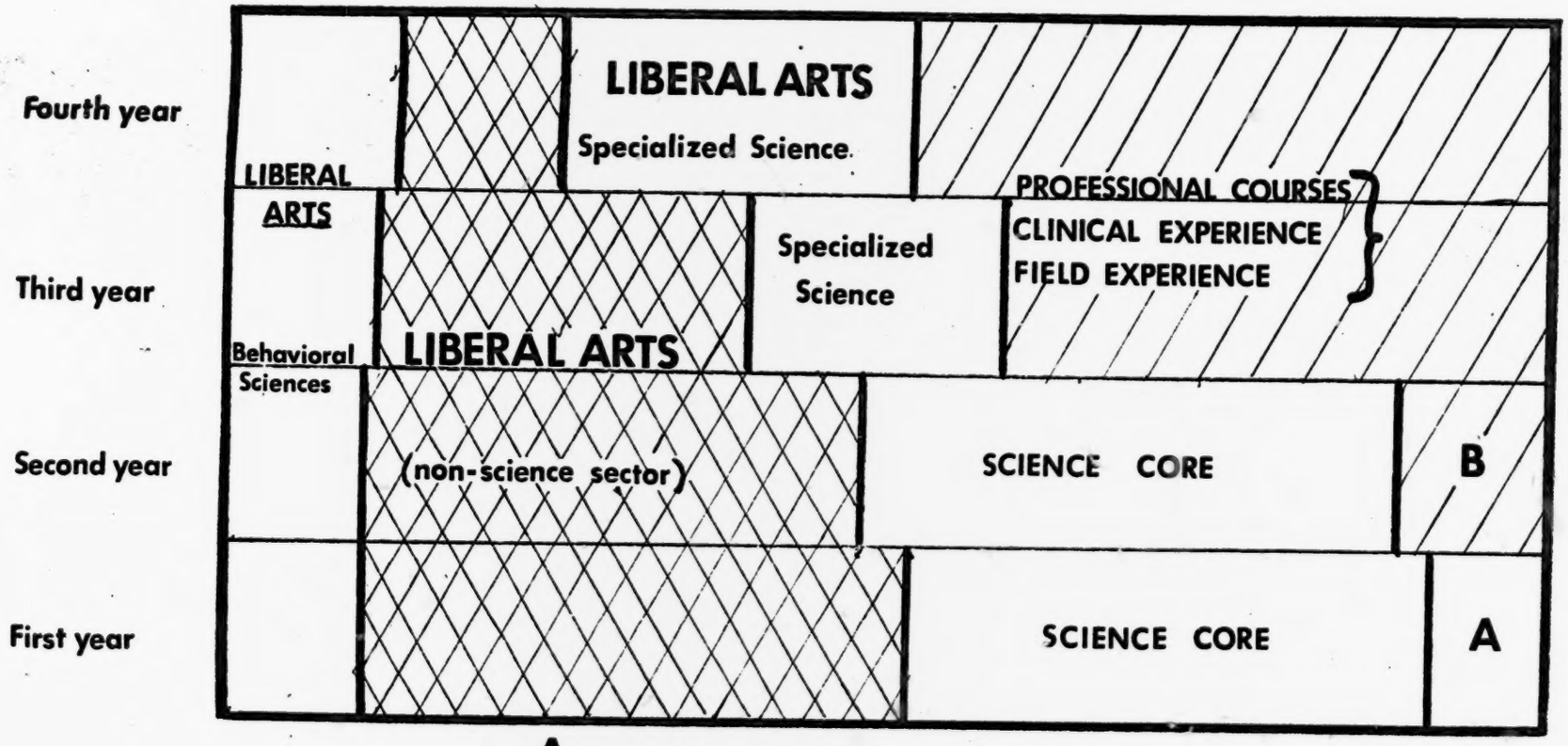
diagram 3

APPENDIX J

CITY UNIVERSITY

HUNTER COLLEGE INSTITUTE OF HEALTH SCIENCES

*ILLUSTRATIVE CURRICULUM PLAN



A Interdisciplinary course
Background for understanding
Health Services in our society

B Field Experience Orientation

April 1968

*dimension of areas will vary with program